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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,476	10/23/2003	Jea-Woan Lee	1567.1059	5031

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EXAMINER

WEINER, LAURA S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/691,476

Applicant(s)

LEE, JEA-WOAN

Examiner

Laura S. Weiner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 9-26 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8 and 27 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5-06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-8, 27 in the reply filed on 8-30-06 is acknowledged. The traversal is on the ground(s) that there would not be a serious burden in searching the product and method claims. This is not found persuasive because Group I is classified in class 429, subclass 231.95; Group II is classified in class 429, subclass 241; Group III is classified in class 429, subclass 211; Group IV is classified in class 429, subclass 233; Group V is classified in class 429, subclass 234 and Group VII is classified in class 429, subclass 218.1. In addition, the inventions are distinct, each from the other because Invention I requires a negative electrode having a tab which is attached to the negative electrode having an average surface roughness versus Invention II requires a negative electrode having a tab which has a specific porosity versus Invention III requiring a negative electrode comprising a tab attached to an upper and a lower end surface of a metallic lithium plate versus Invention IV requiring a negative electrode comprising a tab that is attached to the metallic lithium plate at a surface area of 10% larger than a geographical area. Inventions I, II, III, IV and VI are related as mutually exclusive species in an intermediate-final product relationship. In the instant case, the intermediate product is deemed to be useful as an electrode for a LiMnO_2 -carbon battery. In addition, inventions I, II, III, IV and V are related as process of making and product made. The product as claimed can be made by another and materially different process such as by sandblasting.

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The requirement is still deemed proper and is therefore made FINAL.

2. Claims 9-26, 28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8-30-06.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al. (JP 2002-279972, abstract) in view of Hata (JP 11-307078, translation and abstract).

Tamura et al. teaches an electrode for a lithium secondary battery comprising an active material film formed mainly of a metal alloyed with Li. The value of (surface roughness Ra of active material film)-(surface roughness Ra of substrate) is 0.1 um or larger.

Tamura et al. discloses the claimed invention except for specifically teaching that a negative electrode tab is attached to the plate on an area having a surface roughness of 0.1-5 um.

Hata teaches a current collecting tab used in an alkali secondary battery having a surface roughness of 0.1–4 μm . Hata teaches in the translation on page 3, [0031], that a piece of pure nickel was used as the current collection tab. Only the portion for being welded to a current collecting substrate may be formed so as to have the specified surface roughness. If the surface roughness is smaller than 0.1 μm , the surface becomes a smooth surface, the contact resistance with a mix non-coating part of the current collecting substrate is decreased and the generation of Joule heat is decreased.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the surface roughness of the area attaching the negative tab to the plate be 0.1–4 μm because Hata teaches if the surface roughness is smaller than 0.1 μm , the surface becomes a smooth surface, the contact resistance with a mix non-coating part of the current collecting substrate is decreased and the generation of Joule heat is decreased.

Allowable Subject Matter

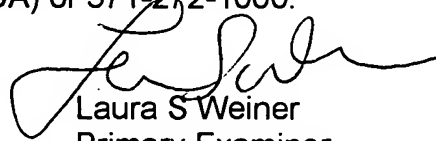
5. Claims 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Laura S Weiner
Primary Examiner
Art Unit 1745

October 5, 2006